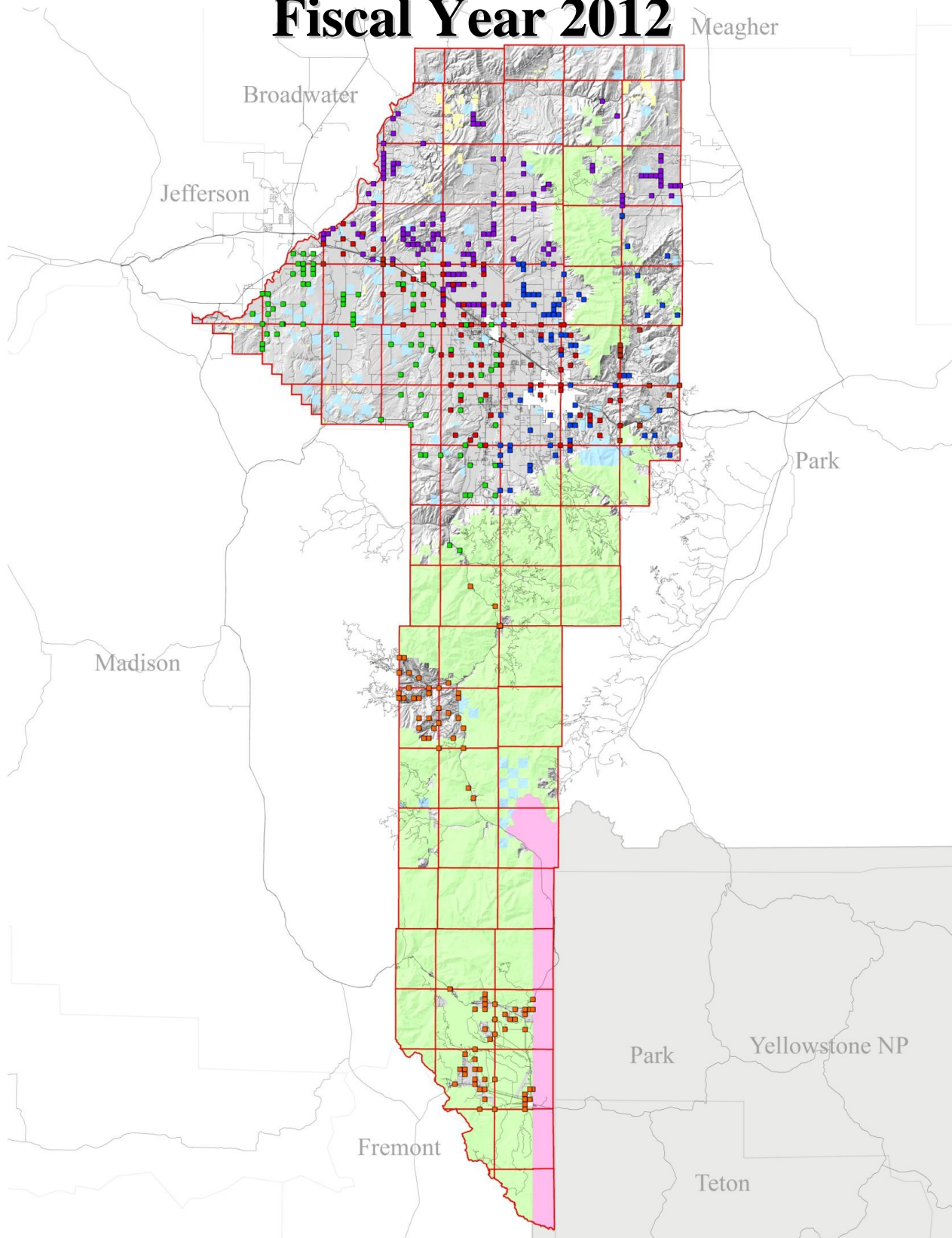


# **Grant Application Montana Land Information Act Fiscal Year 2012**



**Submitted by: Gallatin County, Montana**

## APPLICANT INFORMATION

Applicant Name Gallatin County Geographic Information Systems Department

Principle Individual Allen Armstrong, GIS Manager

Agency Gallatin County Local Government

Mailing Address 311 W. Main Street, Courthouse, Rm. 305

City Bozeman

County Gallatin

State Montana

Zip 59715

Contact Email allen.armstrong@gallatin.mt.gov

Contact Fax (406) 582-3003

Contact Telephone (406) 582-3148 Ext. 91

Department Geographic Information Systems

## PARTICIPATING PARTNER

Principle Contact William C. Grayson, Land Surveyor

Agency U.S.D.A. Bureau of Land Management

Mailing Address 5001 Southgate Drive, P.O. Box 36800

City Billings

County Yellowstone

State Montana

Zip 59107

Contact Email wgrayson@blm.gov

Contact Telephone (406) 896-5009

## **PARTICIPATING PARTNER**

Principle Contact Stewart Kirkpatrick, GIS Bureau Chief

Agency MT DOA, Information Technology Services Division

Mailing Address Room 229, Mitchell Building, 125 North Roberts

City Helena

County Lewis and Clark

State Montana

Zip 59620

Contact Email skirkpatrick@mt.gov

Contact Telephone (406) 444-2700

## **PARTICIPATING PARTNER**

Principle Contact Janet Kempff, USFS Surveyor

Agency US Department of Agriculture, Forest Service

Mailing Address Federal Building, PO Box 130

City Bozeman

County Gallatin

State Montana

Zip 59771

Contact Email jkempff@fs.fed.us

Contact Telephone (406) 587-6701

## **ADDITIONAL PARTICIPATING PARTNERS**

### **Local Surveying Community**

The Local Surveying Community will benefit from contracts with Gallatin County and available Public Land Survey System (PLSS) control data collected and uploaded to the Montana Control Point Database. Also, additional corner records will be filed and kept in the Clerk and Recorder's Office for future reference by the public and Surveyors/Engineers needing coordinate references.

## DATE SUBMITTED

Date Submitted February 10, 2011

## DATE RECEIVED

Date Received \_\_\_\_\_

## DESCRIPTIVE TITLE OF PROJECT

Enhancement of the Bureau of Land Management's (BLM) Geographic Coordinate Data Base (GCDB) through Control Surveys, supplementing the Geodetic Control Theme as a means for adjusting the Cadastral Theme and the Administrative Boundary Theme within Gallatin County, Montana and Southwestern Montana. This Geodetic Control Theme Project is year 2 of a 5 year, Phase II project which follows a successfully completed 5 year Phase I project which ran from 2005 to 2009.

## RELEVANCE AND PUBLIC BENEFIT

This project closely aligns with the following Goal and Objectives of the 2011/2012 Montana Land Information Plan:

**Goal 1:** *Develop land information data that are consistently collected using all applicable standards.*

**Objective 2:** *Develop GIS data for inclusion in MSDI framework layers.*

**Objective 3:** *Develop GIS data that will support the following priority needs: public health & safety, response services, economic development, land use, planning, sensitive resources, or physical infrastructure.*

After a 2004 adjustment to the GCDB control in Gallatin County, which was the first control collection effort undertaken in this region, the cadastral data of the county began to be of greater value to all public and private users. Subsequent efforts to collect and document control points, adjust the GCDB and then adjust the cadastral data has only continued to make this layer of data in Gallatin County increasingly useful to all users. With data previously in excess of 300 feet off, areas that were practically unusable due to positional accuracy have now been aligned to acceptable useful levels.

Gallatin County has committed to continuing forward with methods outlined in this project until such a time that positional accuracy of 3-5 meters is achieved countywide. Gallatin County believes this project is very closely tied to the strategies of the 2011/2012 Land Information Plan updating three MSDI Themes.

To meet the purpose of the 2011/2012 Montana Land Information Plan the following action items have, and will continue to take place:

- Advance the collection of the Geodetic Control Theme throughout Gallatin County, Montana
  - Collection of coordinate data for the BLM GCDB
  - Locate, collect, photograph, document and preserve control points before more are destroyed through development
  - Data collected by Registered Land Surveyors to validate accuracy and integrity
  - Data collection standards strictly followed
  - Provides accuracy and certainty to business applications based on accurate land records

■ Refine the accuracy of the Cadastral Theme for Federal, State, Local and Private interests

Adjust a completed and maintained cadastral layer to useful levels of accuracy  
Will leverage an existing commitment of funds and maintenance personnel in Gallatin County  
Continues forward with a proven process designed by the Base Map Service Center for adjustments  
Interagency data integration for customized applications

■ Refine the accuracy of the Administrative Boundaries Theme for Federal, State, Local and Private interests

Builds a reliable and usable layer of accurate administrative boundaries for all to use  
Data sharing among agencies is opened considerably  
Boundary questions and discrepancies are removed between agencies  
Informational exchange across administrative boundaries

■ Establish collaborative partnerships between the GIS and Surveying Communities in Montana

Data made available to all coordinate reference users  
Enhances the usefulness of GIS data to the non-GIS professional  
Demonstrates the connectivity of Geodetic Control from local surveyors with GIS and Cadastral data  
Process currently in place engaging local municipalities  
Develop and upload control to the Montana Control Point Database

## **SCOPE OF WORK**

Gallatin County has developed a long-term plan that leverages MLIA funds and establishes the internal and external partnerships to enhance the Geodetic Control Theme by working with internal departments, Registered Land Surveyors, the BLM and the US Forest Service in a joint GCDB Accuracy Enhancement Process.

Gallatin County has completed 5 years of our 5 year countywide Phase I Geodetic Control Theme Project. Sustainability and commitment is most certainly being demonstrated within Gallatin County through internal momentum and budget allocation towards the completion of this overall project through Fiscal Year 2015. Gallatin County GIS is also committed to maintaining our adjustments to the Cadastral and Administrative Boundaries themes as new GCDB Control Surveys are completed and integrated into the Geodetic Control Theme.

Phase II, year 1 work, began in Fiscal Year 2010 and will complete in Fiscal Year 2011. Phase II looks at the entire county again and targets areas of unacceptable control shift, collecting control points that may or may not have existing corner record monuments. These targeted points may be more difficult to locate in the field or may ultimately require a complete re-monumentation. Points will be selected for their locations critical to the refinement of GCDB control in a given geographic area. Phase II project work might possibly collect less control points in number than Phase I; however, Phase II control points will likely be more difficult to collect but may weight more heavily in the control adjustment.

Phase II maximizes our control point numbers by taking advantage of survey control data currently being managed by the USDA Forest Service. With over 40% of Gallatin County managed by the USDA Forest Service, the Forest Service data will contribute heavily to the GCDB adjustment in townships containing public lands. This kind of partnership will be generated at the local level by involving USFS Surveyors in the planning stages for each Phase II project. Records from the local Forest Service office have been made available to us and have been researched as to usefulness by our contracted surveyor.

## **GOALS, OBJECTIVES AND TASKS**

### **Involve Local Surveyors in the Process and Generate Project Buy-In**

■ Develop a Pre-Qualified List of Local Registered Land Surveyors

Gallatin County released a second Call for Land Surveying Services SOQs in June of 2010 to all local and several surrounding area Engineering/Surveying firms to develop a pre-qualified list for Land Surveying Services. There has been much discussion concerning what we are attempting to do with this survey data as well as demonstrating the benefits that good quality survey data makes in the positional accuracy of the cadastral layer that they all use regularly statewide.

Interviews to determine the ranking of the top 4 firms are scheduled for February 18<sup>th</sup>, 2010. The pre-qualified list is expected to last throughout the remainder of Phase II of the overall project plan and replaces the list established at the beginning of Phase I. Using this pre-qualified list with this next phase, contracts will be bid out to the most competitive firm.

## Develop an Overall Geographic Plan

### ■ Divide the Geographic Areas into Manageable Blocks

GCDB Control Surveys throughout Gallatin County covered a total of 73 Townships during Phase I of the Geodetic Control Theme Project. In Phase II there are a total of 66 Townships that are planned for refined Control Surveys that will supplement Phase I data.

Illustrated in Figure 1 are the Townships with Control Surveys completed in Fiscal Year 2004 during a Pilot Project with the BLM. Figure 2 indicates the Townships in Gallatin County that were planned and covered during Phase I of the Geodetic Control Theme Project with the Control Survey areas colored by Fiscal Year.

Figure 3 displays the Phase II Geodetic Control Theme Project geographic areas that are proposed for Fiscal Years 2010 through 2015 with 2011 combined with Fiscal Year 2010. Again, geographic areas are color coded by the Fiscal Years projected for the duration of this Phase. Geographic areas with the most development have proven to exhibit the largest Cadastral Theme errors in the past. The boundaries for the Phase II Geodetic Control Theme Project have been re-aligned to cover these areas more efficiently.

Jurisdictional areas impacted by this project include land administered by the Gallatin National Forest, BLM, National Park Service, State of Montana and Gallatin County, as well as the Municipalities of Bozeman, Belgrade, Manhattan, Three Forks and West Yellowstone. The Local Surveying Community (on-board with our plan), public users and all partners mentioned who receive adjusted data on a regular on-going schedule will reap the benefits in their applications, research and integrity of the GIS data.

This Fiscal Year 2012 Project Plan covers year 2 in the overall Phase II Geodetic Control Theme Project, which is part of a 5-year project plan in the overall 10 year life cycle. Townships covered under this project will include the following and will be referred to as the contracted townships collection areas:

T 3N R 5-7 E  
T 1S R 7 E

T 2N R 5-7 E  
T 2S R 7 E

T 1N R 5-7 E  
T 3S R 6-7 E

BLM/Gallatin County Geodetic Control Pilot Project  
Fiscal Year 2004

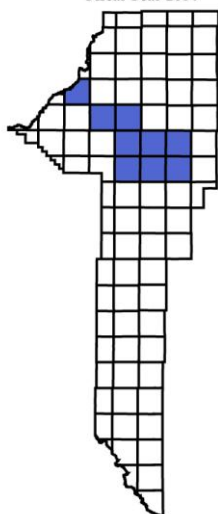


Figure 1.

Phase I Geodetic Control Theme Project  
Gallatin County Townships by Fiscal Year Completed

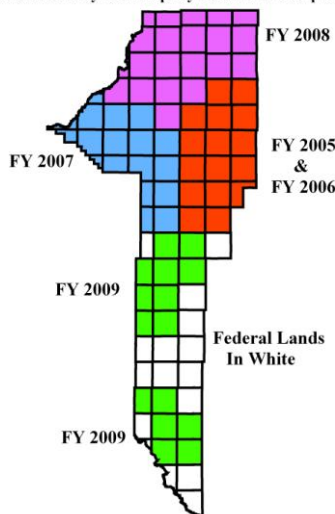


Figure 2.

Phase II Geodetic Control Theme Project  
Gallatin County Townships by Fiscal Year Completed

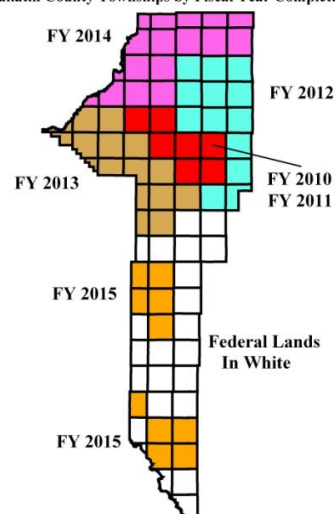


Figure 3.

## **Prioritize Target Control**

### **■ Devise a 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> Choice Control Point Plan for the Field**

Meetings between representatives from the Base Map Service Center, the BLM, Forest Service and Gallatin County will strive to look at existing cadastral shifting in the project area and weigh that against existing control already collected for the GCDB. This pre-planning is intended to select areas that will need additional control to make the most effective use out of existing points and provide the necessary adjustment nodes, consequently, pulling the GCDB into better alignment.

## **Project Maps Created**

### **■ Corner Records Maps and Control Point Plan Maps for Surveyors Printed**

Previous survey points, USFS points, and existing BLM GCDB points will be compiled into a readable format that can be used to create detailed township map pages. These individual map pages will be reviewed for correctness by the project representatives and used by the potential contractors to produce cost estimates.

## **Create a Contractor Scope of Work**

### **■ Approve Legal Contract(s) Between Surveyor(s) and Gallatin County**

Following the legal process of contracting with Gallatin County, negotiate fees and services with the selected surveying contractor(s) and approve through a County Commission public meeting. Emphasis will be placed on efficiency in the field and collecting the maximum number of points for the budget dollars. A hard cost estimate will be reviewed by the selected contractors and the best price selected with a not to exceed amount specified.

## **Field Geodetic Control Surveying**

### **■ Conduct the Field Control Point Collection Throughout the Project Area**

Performed by a Registered Land Surveyor using Geodetic Control Processing with a positional accuracy statement for each point. Field notes and Corner Records re-established where applicable with any necessary corner records recorded with the Clerk and Recorder. Standards and Guidelines for Cadastral Surveying from the BLM will be followed. Control points will be entered into the State Survey and Mapping Control (SUMAC) database template and submitted to the Montana Control Point Database.

## **Upload of New MSDI Data**

### **■ Submittal of Data to BLM and the Base Map Service Center**

Control Surveys submitted to BLM for review and acceptance by BLM staff. Field maps printed for BLM review and geographic position reference. Refinement of deliverables will be made by Gallatin County, or Gallatin County's Contracted Registered Land Surveyor, per any BLM recommendations. GCDB geodetic control adjustment will be conducted within the timeframe of the BLM and BMSC resulting in readjusted township PLSS data.

## **Update Dependant Themes**

### **■ Adjustment of Gallatin County Cadastral Theme to the New GCDB**

### **■ Adjustment of Gallatin County Administrative Boundaries Theme to the New GCDB**

Adjustment of Gallatin County parcel data using the ArcMap script developed by the BMSC. Once the adjustment is acceptable, perform the same adjustment to all Gallatin County Administrative Boundaries that are based on the Cadastral Theme. Cadastral Theme updates and Administrative Boundaries updates submittal to the BMSC. Modify any registered data with the Montana GIS Portal and submit any new information as needed.

## PROJECT SCHEDULE

The Timeline for each Fiscal Year Project, within each Phase, has been and likely will continue to be the same barring any unforeseen weather situations. Although each Fiscal Year Control Survey overlaps calendar years, the Fiscal Year in which the first Task begins is considered the Fiscal Year for that Control Survey.

TASKS	CALENDAR					
	FISCAL YEAR 2012					
	July – August	September - October	November - December	January - February	March - April	May - June
Involve Local Surveyors in the Process and Generate Project Buy-In	←→					
Develop an Overall Geographic Plan	←→					
Prioritize Target Control		←→				
Project Maps Created			←→			
Create a Contractor Scope of Work				←→		
Field Geodetic Control Surveying					←→	
Upload of New MSDI Data						←→
Update Dependant Themes						←→

## PROJECT MANAGEMENT AND ORGANIZATIONAL CAPABILITY

The mission statement of the Gallatin County GIS Department reads as follows:

*“Coordinate the development and management of complete, timely and accurate geographic information system (GIS) data to support users of geographic data in effective decision making within Government; thereby, working smarter to meet the growing demands of Gallatin County. Promotes user-friendly applications and provides technical assistance and training to migrate data, applications and timely information into the hands of Gallatin County Departments and Emergency Services. Develops data standards and formats resulting in effective public safety management, informed government operations, elimination of redundancy, and increased service to the public.”*

The GIS Department has taken a very active role in both Phases of this Geodetic Control Theme Project. The success achieved over these numerous years of collection and adjustments has served as a blueprint for other local governments to follow on similar projects. Because Gallatin County has committed budgeted funds to this program every year, there demonstrates an internal commitment to continue forward from the elected Commissioners and other elected Department Heads. The local users in the community, especially the surveyors are witnessing a transformation in the GIS data as a direct result of their efforts and contributions of control necessary to adjust the GCDB theme. They also are witness to the fact that the GIS developers recognize the reliance on the Registered Land Surveyors and respect their expertise in the area of geodetic control.

In order to take a more proactive role in locating and documenting potential control, thereby, reducing the research cost paid to the Registered Land Surveyors and increasing production in the field, all staff listed here have incorporated a control point research component into their field work. Starting during the field season of 2010, the GIS staff began building a database of discovered control beyond that which has already been located



and surveyed as part of this overall Geodetic Control Theme Project. Potential GCDB control points were pulled from the BLM data and selected based on proximity to roadways, driveway, trails and canal waterways. As staff worked throughout the county, the software alerted staff to the proximity of a potential control point. Points were investigated and mapped, if located, with a Trimble Juno and photographed for future identification. As this overall project continues, these points may be professionally surveyed as needed to adjust the overall GCDB theme.

Allen Armstrong, GIS Manager, GISP – Mr. Armstrong will oversee all activities conducted on this project and will provide the direct management of other staff from Gallatin County. Mr. Armstrong has over 20 years of extensive GIS management experience and has been involved in all phases of the Geodetic Control Theme project since 2004. Mr. Armstrong is Gallatin County's database administrator and will be in charge of all deliverables to the BLM or the Base Map Service Center. Mr. Armstrong has successfully managed other long-running and technical projects such as:

Gallatin County's GIS Development and Strategic Implementation Plan since 1997

Gallatin County's Disaster Mitigation Awareness and Preparation Community HAZUS Plan

State of Vermont E911 GPS Address Mapping and GIS Landbase Development

Frank Dougher, GIS Analyst – Mr. Dougher will be responsible for assisting with the control collection planning, coordinating with Surveyors, and assisting with the final deliverables. Mr. Dougher, has over 15 years of GPS experience and has assembled the data set of control points collected and photographed by the Gallatin County GIS staff.

Leo Pidgeon, GIS Technician Analyst – Mr. Pidgeon is situated in the Gallatin County Clerk and Records office and will be responsible for research, access and copying any and all Corner Records for the project area. Mr. Pidgeon has had an extensive surveying background in Montana and California and is intimately familiar with this control point project. Mr. Pidgeon is responsible for any updates to the cadastral layer and will be involved in the task of adjusting the Cadastral Theme and Administrative Boundaries Theme.

Registered Land Surveyors – The following firms were selected in the top 4 from a released Call for Land Surveying Services SOQ in June of 2010 and are on Gallatin County's pre-qualified list. At least one, if not more of these firms will be involved in this project:

Roen, Inc.

Morrison-Maierle, Inc.

Stahly Engineering and Associates, Inc.

Gaston Engineering and Surveying, P.C.

## **BUDGET**

Gallatin County has estimated 10 years for completion of Phase I and Phase II of this project. In-kind contributions consist of staff time and budgeted contract funds by Gallatin County. Costs associated with the project are mainly associated personnel needed to plan, research and review fieldwork, as well as the analytical GIS adjustment of the dependant GIS themes. Current hourly rates for salaries and fringe benefits were adjusted upward by about 4% annually to account for the probable salaries that would be in effect at the time each forecasted project Phase begins. A detailed budget table by Fiscal Year showing the estimated costs for all categories is provided in this section.

**Salaries and Wages:** Personnel from the Gallatin County Geographic Information Systems Department will be the only staff required for these project phases.

**Fringe Benefits:** The amount assigned to fringe benefits is 31.7% of the salaries and wages of County employees. These include health and unemployment insurance, workers compensation, FICA & Medicare, and retirement.

**Travel:** No travel costs are anticipated. Travel costs by BMSC and BLM staff will be considered in-kind.

**Equipment:** No equipment costs are anticipated. Existing hardware/software will be utilized.

**Supplies:** Supplies include minor office incidentals and plotting supplies for field Survey plots.

**Contracted Services:** Professional contract services provided by Registered Land Surveyors will be paid for the Control Surveys. Contracts will be written and administered by Gallatin County based on a submitted Scope of Work with a not to exceed amount for time and materials.

**Other:** These costs include Gallatin County Grants Administration fees which are required by Gallatin County and calculated at 8.32% of the total grant funds. These funds will be paid to Grants by the GIS Department, and are being provided as matching funds. Having the Grants Department administer this project will ensure adequate grant reporting for Federal, State and Gallatin County administrative requirements.

**FISCAL YEAR 2005/2006 ACTUAL BUDGET SUMMARY – PHASE I**

**Total Expended by Gallatin County = \$32,538.00**

**Total MLIA Share = \$0.00**

**FISCAL YEAR 2007 ACTUAL BUDGET SUMMARY – PHASE I**

**Total Expended by Gallatin County = \$32,636.00**

**Total MLIA Share = \$0.00**

**FISCAL YEAR 2008 ACTUAL BUDGET SUMMARY – PHASE I**

**Total Expended by Gallatin County = \$25,225.20**

**Total MLIA Share = \$20,000.00**

**FISCAL YEAR 2009 ACTUAL BUDGET SUMMARY – PHASE I**

**Total Expended by Gallatin County = \$24,527.00**

**Total MLIA Share = \$20,000.00**

**Total PARTNER-ITSD Share = \$7,500.00**

**FISCAL YEAR 2010 *Projected* ACTUAL BUDGET SUMMARY – PHASE II**

**Total *Projected* Expended by Gallatin County = \$24, 646.00**

**Total *Projected* Billed to MLIA = \$20,000.00**

**FISCAL YEAR 2011 – No MLIA Grant Application Submitted**

**(An internal email problem precluded us from receiving any MAGIP emails and the deadline was missed)**

**FISCAL YEAR 2012 ESTIMATED BUDGET SUMMARY FORM – PHASE II**

CATEGORY	GALLATIN CNTY SHARE	MLIA SHARE	OTHER SHARE	TOTAL
1. SALARIES/WAGES	\$2,580	\$0	\$0	\$2,580
2. FRINGE BENEFITS	\$818	\$0	\$0	\$818
3. TRAVEL	\$0	\$0	\$0	\$0
4. EQUIPMENT	\$0	\$0	\$0	\$0
5. SUPPLIES	\$140	\$0	\$0	\$140
6. CONTRACTED	\$20,000	\$20,000	\$0	\$40,000
7. OTHER	\$1,664	\$0	\$0	\$1,664
<b>TOTAL \$</b>	<b>\$25,202</b>	<b>\$20,000</b>	<b>\$0</b>	<b>\$45,202</b>

**FISCAL YEAR 2013 ESTIMATED BUDGET SUMMARY FORM – PHASE II**

<b>CATEGORY</b>	<b>GALLATIN CNTY SHARE</b>	<b>MLIA SHARE</b>	<b>OTHER SHARE</b>	<b>TOTAL</b>
<b>1. SALARIES/WAGES</b>	\$2,682	\$0	\$0	\$2,682
<b>2. FRINGE BENEFITS</b>	\$850	\$0	\$0	\$850
<b>3. TRAVEL</b>	\$0	\$0	\$0	\$0
<b>4. EQUIPMENT</b>	\$0	\$0	\$0	\$0
<b>5. SUPPLIES</b>	\$150	\$0	\$0	\$150
<b>6. CONTRACTED</b>	\$20,000	\$20,000	\$0	\$40,000
<b>7. OTHER</b>	\$1,664	\$0	\$0	\$1,664
<b>TOTAL \$</b>	\$25,346	\$20,000	\$0	\$45,346

**FISCAL YEAR 2014 ESTIMATED BUDGET SUMMARY FORM – PHASE II**

<b>CATEGORY</b>	<b>GALLATIN CNTY SHARE</b>	<b>MLIA SHARE</b>	<b>OTHER SHARE</b>	<b>TOTAL</b>
<b>1. SALARIES/WAGES</b>	\$2,790	\$0	\$0	\$2,790
<b>2. FRINGE BENEFITS</b>	\$884	\$0	\$0	\$884
<b>3. TRAVEL</b>	\$0	\$0	\$0	\$0
<b>4. EQUIPMENT</b>	\$0	\$0	\$0	\$0
<b>5. SUPPLIES</b>	\$160	\$0	\$0	\$160
<b>6. CONTRACTED</b>	\$20,000	\$20,000	\$0	\$40,000
<b>7. OTHER</b>	\$1,664	\$0	\$0	\$1,664
<b>TOTAL \$</b>	\$25,498	\$20,000	\$0	\$45,498

**FISCAL YEAR 2015 ESTIMATED BUDGET SUMMARY FORM – PHASE II**

<b>CATEGORY</b>	<b>GALLATIN CNTY SHARE</b>	<b>MLIA SHARE</b>	<b>OTHER SHARE</b>	<b>TOTAL</b>
<b>1. SALARIES/WAGES</b>	\$2,902	\$0	\$0	\$2,902
<b>2. FRINGE BENEFITS</b>	\$920	\$0	\$0	\$920
<b>3. TRAVEL</b>	\$0	\$0	\$0	\$0
<b>4. EQUIPMENT</b>	\$0	\$0	\$0	\$0
<b>5. SUPPLIES</b>	\$170	\$0	\$0	\$170
<b>6. CONTRACTED</b>	\$20,000	\$20,000	\$0	\$40,000
<b>7. OTHER</b>	\$1,664	\$0	\$0	\$1,664
<b>TOTAL \$</b>	\$25,656	\$20,000	\$0	\$45,656

Future MLIA funding is not anticipated beyond Fiscal Year 2015. With the amount of effort put forth in this project for the full 10 years, there is expected to be enough local support from the GIS community and the local surveyor community that momentum will exist to contribute data to the Montana Control Point Database. The GIS Department also plans to supplement any location-specific control points by collection with internal high-grade GPS equipment on a limited basis.

## **STATEMENTS OF SUPPORT**



STATE OF MONTANA  
Department of Administration  
INFORMATION TECHNOLOGY SERVICES DIVISION



Brian Schweitzer  
Governor

February 14, 2011

Allen Armstrong  
Gallatin County GIS Dept.  
311 W. Main  
Bozeman, MT 5971

Dear Allen:

As Montana Spatial Data Infrastructure stewards of the Cadastral, Geodetic Control and Administrative Boundary themes, we highly encourage data contributors to use and improve the Bureau of Land Management's (BLM) Geographic Coordinate Database (GCDB). Since 2005 Gallatin County has developed and managed a GCDB enhancement program, collecting GPS coordinates on PLSS monuments and supplying that data to the BLM in a standardized format. This program is an annual line item in the County's budget. These data have also been entered into the MSDI Montana Control Point Database (MCPD). Gallatin County applied for, received and successfully administered MLIA grants for GCDB enhancement in FY 2009 and FY 2010.

After using FY 2011 to evaluate the results of GCDB enhancement and look for efficiencies in field collection procedures, Gallatin County is again requesting financial support of their program through a FY 2012 MLIA grant. The Montana Base Map Service Center and the MSDI theme leads for Cadastral, Geodetic Control and Administrative Boundaries all strongly support Gallatin County's long term GCDB enhancement program and their FY 2012 request for funding.

Sincerely,

Stewart Kirkpatrick  
Chief, MT Base Map Service Center  
Information Technology Services Division  
MT. Dept. of Administration

Janet Kelly  
Director  
Department of Administration

Room 229, Mitchell Building 125 North Roberts PO Box 200113  
Helena, Montana 59620-0113  
406.444.2700 Fax 406.444.2701

Dick Clark  
Chief  
Information Officer

## **RENEWABLE GRANT ACCOUNTABILITY REPORTS**



**Gallatin County**  
**Department of Geographic Information Systems**  
**311 West Main, Room 305**  
**Bozeman, Montana 59715**  
**406-582-3049**

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October 27, 2010

Mr. William Grayson  
Department of the Interior  
Bureau of Land Management  
5001 Southgate Drive  
Billings, MT 59101

Dear Bill:

Gallatin County is sending additional data to the BLM from supplemental work completed by our surveyors as part of the 2009 project year GCDB work. Enclosed is an overall plot representing the GPS survey points collected by our contract Registered Land Surveyors in 2009 and the supplemental work completed in 2010, with reference of other control data collected from 2004-2008. There is one disk enclosed with all the final data in SUMAC format for our 2009 GCDB project.

Please use this survey data with the GCDB Measurement Management software to re-compute the GCDB for these areas and include the resulting data in the Geodetic Control Theme for Gallatin County and Montana.

Please let me know if there is anything additional you need from my office or the surveyors concerning this data, or any changes needed to the SUMAC data format. We will assume that this GPS survey data will become part of the overall GCDB unless we hear otherwise. Thank you again for your participation on this project and your continued assistance.

Gallatin County issued a new RFQ this year to the surveying and engineering community to establish a new pre-qualified list for the next phase of work. We anticipate completing the 2010 GCDB field work in early 2011.

Sincerely,

Allen J. Armstrong  
GIS Manager  
Gallatin County GIS Department

Cc: Stu Kirkpatrick, MT DOS/ITSD



**Gallatin County**  
**Department of Geographic Information Systems**  
**311 West Main, Room 305**  
**Bozeman, Montana 59715**  
**406-582-3049**

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March 15, 2010

Mr. William Grayson  
Department of the Interior  
Bureau of Land Management  
5001 Southgate Drive  
Billings, MT 59101

Dear Bill:

Gallatin County is sending data to the BLM from our recent contract deliverables completed in 2009 by Roen, Inc./Skyline Surveying, Inc. Enclosed is an overall plot representing the GPS survey points collected by our contract Registered Land Surveyors in 2009, with reference of other control data collected from 2004-2008. There is one disk enclosed with the final data in SUMAC format.

Please use this survey data with the GCDB Measurement Management software to re-compute the GCDB for these areas and include the resulting data in the Geodetic Control Theme for Gallatin County and Montana.

Please let me know if there is anything additional you need from my office or the contractors concerning this data, or any changes needed to the SUMAC data format. We will assume that this GPS survey data will become part of the overall GCDB unless we hear otherwise. Thank you again for your participation on this project and your continued assistance.

Sincerely,

Allen J. Armstrong  
GIS Manager  
Gallatin County GIS Department

Cc: Stu Kirkpatrick, MT DOS/ITSD



**STATUS REPORT**  
**Montana Land Information Act 2008 Grant**

To: Stewart Kirkpatrick  
Project Manager - Agency  
Weinstein Building, Suite 2  
101 N. Rodney  
Helena, MT 59601

From: Allen Armstrong  
Gallatin County GIS Department  
Gallatin County, MT

Date: 01/27/2009

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Field work and submittal of the final field data for the 2008 project work was completed and delivered shortly before Christmas. A copy of the **Surveyors Report** and a copy of the **Statement of Positional Accuracy** are enclosed. A CD copy and printout of the SUMAC data spreadsheet is also included. This was emailed to your office recently. A total of 140 control points were collected for this Fiscal Year 2008 GCDB Accuracy Improvement Project.

As previously mentioned, this contract area covered the remote northern portions of Gallatin County. Access was more difficult in this area and we were met with some resistance by larger land owners, which was unexpected. The overall monument accuracy in this geographic region is not as bad as other parts of the county. As we proceed with the next phase in our overall project plan, we will need to be selective, and more persuasive with the landowners, regarding the access and placement of additional control in this area.

These contract submittals and a plot showing the point locations in relation to the townships of Gallatin County will be sent to William Grayson of the BLM for GCDB Measurement Management processing and inclusion into the GCDB. After review by the BLM or your office, please let us know the status of this data becoming available in the overall GCDB.

I would like to request the assistance of Keith Blount for the next GCDB adjustment in Gallatin County. I believe the previous survey work completed in 2007 is now incorporated into the overall GCDB and I would like to adjust that area as well. Since we are presumably close to integrating this 2008 data, we could just wait and do both areas simultaneously.

An Invoice will be prepared and submitted to your office for the deliverables completed. Completion of this final contract is anticipated to be 30 days after the integration of this data into the GCDB. To make a safe contract extension date, perhaps we should extend the contract timeline to May 31, 2009. Let me know if I need to produce any paperwork here to make that extension happen.

Please contact me or Alisha Tinseth (582-3096) from our Grants Department if you have questions at any time. Thank you.

## **AUTHORIZED SIGNATURE**

I hereby certify that the information and all statements in this application are true, complete and accurate to the best of my knowledge and that the project or activity complies with all applicable state, local and federal laws and regulations.

I further certify that this project will comply with applicable statutory and regulatory standards.

I further certify that I am (we are) authorized to enter into a binding agreement with the Montana Department of Administration to obtain a grant if this application receives approval.

\_\_\_\_\_ Date \_\_\_\_\_

\_\_\_\_\_  
Signature and Title of Authorized Representative(s)  
of Public Entity Applicant